On page 12 line 24, please change "Experiments have shown that K_R * KH_{Rest}" with -- Experiments have shown that R_{KH} * KH_{Rest}--;

In the claims:

Please cancel claim 11 without prejudice or disclaimer of the subject matter claimed therein.

Please amend claims 1, 5, 12-15, 18, 20, 21, 22, 31 as follows:

1. (Amended) ~~System for the extrapolation~~ of a glucose concentration, comprising:

[-] a data input device [(EI)] for entering insulin doses administered (I_i) and their times of administration (t_i),

[-] the same or a second data input device [(EK)] for entering carbohydrates (KH_j) consumed or to be consumed, and their times of consumption (t_j),

[-] a unit [(GM)] for determining the actual glucose concentration (G_a) in a patient's bodily fluid at a specific point in time (t_a),

[-] a memory unit [(M)] for storing administered insulin doses and their times of administration, and carbohydrates consumed and their times of consumption,

[-] an evaluation device [(CPU)] for evaluating the data stored in the memory unit and extrapolating a glucose concentration at a point in time (t_p), whereby t_p is after t_a, and the extrapolation comprises the following steps:

[-] determination of the portion (I_{wirk}) of insulin doses that take effect within the interval between t_a and t_p,

[-] determination of the portion [KH_{wirk}] ~~(KH_{wirk})~~ of carbohydrates consumed that take effect in the interval between t_a and t_p,

[-] determination of an extrapolated glucose concentration G_p at the point in time tp with consideration for I_{wirk} and KH_{wirk}.

5. (Amended) System according to Claim 2 [or 4], in which X, as the addend, contains the quantity SG * A, whereby SG is the slope of the glucose concentration at the point in time t_a, and A is an empirical weighting factor.

12. (Amended) System according to Claim 1 [or 2] in which the quantity of carbohydrates consumed (KH_{wirk}) that takes effect in the period between t_a and t_p is calculated using the following formula

$$KH_{WIRK} = \sum_{j=1}^{m} \int_{t_a}^{t_p} C_{KH}(t)dt * KH_j$$

whereby C_{KH} represents the quantity of carbohydrates that are bioavailable at the point in time t and therefore represents the carbohydrate flooding profile, with

$$\int_0^{\infty} C_{KH}(t)dt = 1.$$

13. (Amended) System for determination of insulin doses to be administered comprising:

[-] a data input device [(EI)] for entering insulin doses administered to the patient (Ii) and their times of administration (t_i),

[-] a device [(GM)] for determining the actual glucose concentration [G_a] ~~(G_a)~~ in a patient's bodily fluid at a specific point in time (t_a),

[-] a memory unit [(M)] for storing the doses of insulin administered and their times of administration,

[-] an evaluation device [(CPU)] for evaluating the data stored in the memory unit, and determination of an insulin dose to be administered subcutaneously, or a carbohydrate intake whereby the evaluation comprises the following steps:

[-] determination of the portion (I_{wirk}) of insulin doses that are consumed within the period between t_a and t_p,

[-] determination of the insulin doses to be administered, with consideration for I_{wirk}.

14. (Amended) System according to Claim [1 or] 13, in which the point in time t_p is from 0.5 to 5 hours after t_a.

15. (Amended) System according to Claim [1 or] 13, in which the point in time t_p is at least 2 hours after t_a and up to 4 hours after t_a.

18. (Amended) System according to [one of Claims 13-17] Claim 13 that includes a data input device (EK) for entering carbohydrate units consumed by a patient and their times of consumption, and then determines the portion (KH_{wirk}) of carbohydrate units consumed that take effect in the interval between t_a and t_p and takes KH_{wirk} into account in the determination of the insulin dose to be administered.

20. (Amended) System according to Claim 17 [or 19], in which X, as the addend, contains the quantity $G_{basal} = I_{basal} * SE * C$, whereby I_{basal} is the patient's basal

insulin demand over a 24-hour period, SE is the patient's insulin sensitivity, and C is an empirical weighting factor.

21. (Amended) System according to Claim 17 [or 20] in which X, as the addend, contains the quantity SG * A, whereby SG is the slope of glucose concentration at the point in time t_a, and A is an empirical weighting factor.

22. (Amended) System according to Claim 16 [or 17], in which the insulin dosage ID to be administered subcutaneously is calculated using the following formula:

$ID = ((G_P - G_R) / SE * E) + Y$, whereby

G_R is a target glucose concentration or a maximum acceptable glucose concentration, E is an empirical weighting factor, and Y = 0 or is unequal to zero.

31. (Amended) System according to Claim 13 [or 27] that contains a display unit for displaying an insulin dose to be administered, as well as an editing unit which the patient can use to change the insulin dose to be administered before it is administered.

Please add new claims 32-45 as follows:

32. System according to Claim 4, in which X, as the addend, contains the quantity SG * A, whereby SG is the slope of the glucose concentration at the point in time ta, and A is an empirical weighting factor.

33. System according to claim 1 in which the portion of insulin doses (I_{wirk}) that take effect in the period between t_a and t_p is calculated using the following formula

$$I_{WIRK} = \sum_{i=1}^{n} \int_{t_a}^{t_p} C_I(t)dt * I_i;\ n = \text{number of insulin doses to be considered}$$

whereby CI represents the quantity of insulin that is bioavailable at the point in time t and therefore represents the insulin effectiveness profile; with

$$\int_0^{\infty} C_I(t)dt = 1.$$

34. System according to claim 2 in which the portion of insulin doses (I_{wirk}) that take effect in the period between t_a and t_p is calculated using the following formula

$$I_{WIRK} = \sum_{i=1}^{n} \int_{t_a}^{t_p} C_I(t)dt * I_i;\ n = \text{number of insulin doses to be considered}$$

whereby CI represents the quantity of insulin that is bioavailable at the point in time t and therefore represents the insulin effectiveness profile; with

$$\int_0^\infty C_I(t)dt = 1.$$

35. System according to Claim 2 in which the quantity of carbohydrates consumed (KH_{wirk}) that takes effect in the period between t_a and t_p is calculated using the following formula

$$KH_{WIRK} = \sum_{j=1}^{m} \int_{t_a}^{t_p} C_{KH}(t)dt * KH_j$$

whereby C_{KH} represents the quantity of carbohydrates that are bioavailable at the point in time t and therefore represents the carbohydrate flooding profile, with

$$\int_0^\infty C_{KH}(t)dt = 1.$$

36. System according to Claim 1, in which the point in time t_p is from 0.5 to 5 hours after t_a.

37. System according to Claim 1, in which the point in time t_p is at least 2 hours after t_a and up to 4 hours after t_a.

38. System according to claim 14, that includes a data input device (EK) for entering carbohydrate units consumed by a patient and their times of consumption, and then determines the portion (KH_{wirk}) of carbohydrate units consumed that take effect in the interval between t_a and t_p and takes KH_{wirk} into account in the determination of the insulin dose to be administered.

39. System according to claim 15, that includes a data input device (EK) for entering carbohydrate units consumed by a patient and their times of consumption, and then determines the portion (KH_{wirk}) of carbohydrate units consumed that take effect in the interval between t_a and t_p and takes KH_{wirk} into account in the determination of the insulin dose to be administered.

40. System according to claim 16, that includes a data input device (EK) for entering carbohydrate units consumed by a patient and their times of consumption, and then determines the portion (KH_{wirk}) of carbohydrate units consumed that take effect in the interval between t_a and t_p and takes KH_{wirk} into account in the determination of the insulin dose to be